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The impact of tax audits on tax avoidance levels: the moderating role of audit quality

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Abstract

Research Question: Does an audit cause companies to change their tax strategies, becoming less or more aggressive? Is this relationship more pronounced when audited by a Big Four firm?

Motivation: This study was inspired by Leung *et al.* (2019), who examined the impact of legal effects on tax avoidance. Similarly, we examine the impact of tax audits on tax avoidance. We follow the approach used by Ojala *et al.* (2023), who studied the tax aggressiveness of private firms and how it changes in response to the actions of tax authorities.

Idea: This study aims to examine the effect of tax audits on firm tax avoidance, with audit quality playing a moderating role.

Data: The sample consists of 34 non-financial Tunisian companies listed on the Tunisian Stock Exchange (TSE). The study includes a panel of 179 observations for 2014-2019.

Tools: The data were manually collected from the financial statements of the listed companies. We use a panel regression model to analyze the relationship between tax audits, audit quality, and the level of tax avoidance.

Findings: Our research shows a correlation between audited companies and their effective tax rates. It also suggests that being audited by a Big 4 firm and undergoing a tax audit reduces tax avoidance.

Contribution: Our study extends the existing literature on the effects of tax administration interventions on firms' tax behaviour by analyzing firms' tax strategies.

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1. Introduction

Corporate tax avoidance can be characterized as anything that reduces the firm's taxes relative to its pretax income (Dyreng *et al.,* 2010) covering a wide range of activities, regardless of whether they are "aggressive" or not, and whether they are legal or illegal (Velte, 2023). Tax avoidance is one of many tax-planning strategies managers can employ to decrease their tax liability. According to principal-agent theory (Jensen & Meckling, 1976), tax avoidance may benefit shareholders by increasing cash flows and after-tax incomes. On the other hand, publicly acknowledged tax avoidance can have a detrimental impact on a corporation's reputation due to negative stakeholder reactions, thereby destroying firm value (Velte, 2023). Governance mechanisms serve to protect the interests of stakeholders who are not directly involved in corporate management due to ownership and management separation (Eragbhe & Igbinoba, 2021).

Recognizing the significance of fiscal resources for the state budget, the Tunisian legislature strengthened the powers of the tax administration regarding tax control (Ltifi, 2006). The Tunisian tax system is a self-assessment system, as it is the responsibility of taxpayers to declare, calculate, and pay the amount of tax owed to the tax administration. The control serves as a means of compensating for the self-assessment system to safeguard the interests of the State. Indeed, a tax audit is an authority granted to the tax administration to ensure, through procedures and techniques stipulated by the legislator, that taxpayers have fulfilled their obligations and, if necessary, to rectify the harm caused to the treasury by violations of tax avoidance law (Philip *et al.,* 1991).

Tax audits can serve as an external governance mechanism. Atwood *et al.* (2012) found that in countries where the law is rigorously enforced, companies are less inclined to resort to aggressive tax strategies. In other words, leaders are less likely to engage in tax avoidance when the tax administration is likely to audit them.

On an academic level, researchers in the field have invested considerable effort in exploring the ability of governance systems to reduce aggressive tax management (Boussaidi & Hamed-Sidhom, 2020; Deslandes *et al.*, 2020). In a similar vein, Shevlin *et al.* (2020) assert that taxes represent a significant cost that reduces the company's cash flow. In this regard, companies resort to tax avoidance practices to minimize their taxable base. Thus, this study aims to extend prior studies on tax avoidance by investigating the impact of tax audits on the level of tax avoidance and determining how the quality of the audit influences the relationship between tax audits and tax avoidance. Our sample consists of 34 publicly listed Tunisian companies observed from 2014 to 2019. Financial firms were excluded from the sample. We find that firms subjected to a tax audit tend to be more inclined to adopt tax avoidance strategies. In addition, the relationship between tax audits and tax avoidance is reversed in the presence of Big 4 companies, suggesting that companies audited by these firms are less likely to engage in tax avoidance.

The Tunisian context provides a rich framework for the analysis of our research questions for the following reasons. First, tax resources are an important component of Tunisia's state budget. Thus, the tax burden in Tunisia is around 25% (Finance Law, 2024). This rate is excessively high compared to neighbouring countries. Consequently, tax fraud and evasion are widespread in Tunisia. Tax fraud is estimated at 25 billion dinars, equivalent to 24% of the GDP (OXFAM, 2020). Only a quarter of Tunisian companies subject to corporate income tax (IS) made contributions for this tax in 2015; 46% of them did not submit their tax declarations (Ministry of Finance, 2015). As a result, managers can use several tax strategies that can be legal or illegal to reduce the tax burden. However, Tunisia's Tax Rights and Procedures Code penalizes tax fraud, including tax evasion, with financial penalties and imprisonment (Articles 92, 94, 99, and 101 of the Tax Rights and Procedures Code). Tax audits can be a significant tool that the tax administration possesses to reduce this scourge. If it turns out that the company has committed fraud, it could harm the reputation of both the executives and the companies they lead. Second, Tunisia provides a legal framework that regulates governance mechanisms (board of directors, audit committee, etc.), but in practice, these mechanisms suffer from numerous shortcomings. Thus, Tunisian accounting literature often questions their efficiency (Oussii *et al.*, 2023).

This study contributes to the existing literature in several ways. To the best of our knowledge, it is the first to examine the impact of tax audits on corporate tax avoidance while considering the moderating role of audit quality in the Tunisian context. Previous research has explored various determinants of tax avoidance, including board characteristics (Lanis & Richardson, 2011; Richardson, Taylor, & Lanis, 2016), ownership structure (Badertscher et al., 2013), and incentive alignment (Armstrong et al., 2015). Additionally, other studies have focused on tax non-compliance, offering valuable insights into the drivers of individual tax evasion (Allingham & Sandmo, 1972) and corporate tax obligations (Chen & Chu, 2005). Second, this study provides valuable insights by offering empirical evidence of the moderating impact of audit quality on this relationship. Finally, the results of our study will also be of interest to policymakers and regulators who are considering tax audits to curb corporate tax avoidance, given that in Tunisia, there is a lack of human and material resources in the tax administration.

The rest of the paper proceeds as follows: Section 2 presents the theoretical background. Section 3 reviews the literature and develops the hypotheses. Section 4 describes the research design. Section 5 discusses the empirical results. Section

6 discusses the implications of the results, and the final section presents the conclusions.

2. Theoretical Background

Stakeholder theory is at the core of the study of the issue of tax management. This theory emphasizes the existence of a governance problem related to the presence of this phenomenon and highlights the role of several actors, internal and external to the company, in resolving this issue (Guedrib, 2013). However, several empirical studies have relied on the classical approach of agency theory (Desai & Dharmapala, 2008; Desai & Dharmapala, 2006). Although the principal-agent framework is valuable to the study, it is limited to the relationship between shareholders and managers.

Hill and Jones (1992) broaden the classic framework by including additional stakeholders such as employees, consumers, suppliers, creditors, and the general public. According to these authors, the achievement of stakeholders' expectations of a corporation is influenced by both governance systems and power dynamics among the parties involved. Apart from the unique nature of each stakeholder's asset investments, corporate governance mechanisms significantly influence stakeholder power distribution (Kovermaan & Velte, 2019).

This theory views the management of tax risk as an integral part of an effective governance system and acknowledges that such management helps preserve the interests of all stakeholders in the company, including those of the tax authorities (Guedrib, 2013). The tax administration is a key player in the company. This partner holds a share in the profits of businesses and has a control authority that even surpasses that of majority shareholders. According to Desai and Dharmapala (2008), the State is generally the largest claimant on pretax cash flows through corporate income tax and, consequently, the largest shareholder in most companies. When firms engage in tax avoidance and do not pay their due taxes, it creates serious difficulties for tax authorities in ensuring fair and effective tax collection (Sikka, 2010). As a result, governance mechanisms can play a crucial role in reducing tax avoidance. In this paper, we will focus on the roles played by the tax administration and the external auditor as external actors exercising control over companies.

3. Literature review and hypothesis development

3.1 Impact of tax audit on the level of tax avoidance

As a public body responsible for collecting taxes, the ultimate goal of the tax administration is to increase state revenue. Previous research (DeBacker *et al.*, 2015) confirms that larger companies undergo audits more frequently than smaller ones. This tendency is likely caused by larger firms being more complex and involving more transactions. Moreover, auditing larger companies may result in higher returns when evaluated regarding tax revenue generated per hour of tax clerk time (Ojala *et al.*, 2023).

Several studies have explored the relationship between tax enforcement, corporate governance, and tax avoidance, highlighting factors influencing firms' tax behaviour.

Atwood *et al*. (2012) found that tax avoidance tends to decrease in countries with high levels of tax law enforcement. Hoopes *et al*. (2012) similarly observed that the probability of being audited by tax authorities significantly reduces tax avoidance. This is consistent with the finding that as the level of tax aggressiveness increases, the likelihood of being audited also rises, particularly when there is a noticeable divergence between accounting income and taxable income (Lennox *et al*., 2013; Hoopes *et al*., 2012). In contrast, when companies perceive a lower likelihood of detection, they are more likely to adopt aggressive tax strategies.

Interestingly, Kubick *et al*. (2017) presented a counterintuitive result, suggesting that companies located close to tax authorities may engage more in tax avoidance. They explained this by noting that these companies have better access to information, which might help them prepare for audits more strategically. However, the United States Securities and Exchange Commission (SEC) regularly reviews company filings and provides feedback on deficiencies. Kubick *et al.* (2016) found that companies receiving such comment letters from the SEC engage in less tax avoidance in subsequent periods due to increased scrutiny.

Mickiewicz *et al.* (2019) demonstrated that higher levels of tax compliance among business owners and managers are linked to their perceptions of the legitimacy of the government and the tax administration, their national identity, and the perceived risk and severity of penalties for non-compliance. Furthermore, Jiménez-Angueira (2018) reported that companies with poor governance do not engage in tax avoidance in response to external scrutiny by the IRS and other regulators, such as the SEC, particularly following the corporate scandals of the early 2000s. Amri *et al.* (2023) reinforced this idea, showing that tax authorities' likelihood of a tax inspection significantly reduces tax avoidance. In a similar vein, Leung *et al.* (2019) found that the implementation of the General Anti-Avoidance Rule (GAAR) in China has been effective in reducing tax avoidance. This decrease can be attributed to the introduction of stricter tax regulations and the consolidation of Chinese tax law. Likewise, Chen and Chu (2005) suggested that a higher probability of auditing or increased penalties for non-compliance would reduce a firm's tendency to engage in tax avoidance.

These studies highlight the critical role of tax enforcement, governance quality, and regulatory scrutiny in shaping firms' tax strategies. The evidence suggests that effective tax audits, clear regulations, and the perceived risk of penalties discourage tax avoidance, while access to information and proximity to tax authorities may encourage more aggressive strategies. In light of what has been discussed, we will present our first hypothesis:

***H_1**: Firms that have undergone tax audits will reduce their level of tax avoidance.*

3.2 Moderating effect of the quality of audit

One of the most important sources of external governance mechanisms is the external auditor (the statutory auditor), whose role involves ensuring the accuracy and regularity of financial statements. Assessing and measuring elements related to taxes, such as tax expenses, is a component of the audit engagement. The audit opinion is the outcome of the quality of the auditor's work, which includes determining whether or not there has been any tax avoidance (Payamta *et al.,* 2024). Studies by Mehrabanpour *et al.* (2017) and McGuire *et al.* (2012) offer empirical support for the idea that audit opinions will affect tax avoidance strategies. The quality of financial records is reflected in audit opinions, which also discourage tax avoidance. The external auditor can also provide tax advice to companies as part of their non-audit services (Kovermann & Velte, 2019).
The fact that a company engages in tax avoidance can increase the risk for the auditor (being dismissed from their role) if the board of directors considers the auditor responsible for deficiencies in tax filings (Donohoe & Knechel, 2014). It is expected that well-established audit firms are sensitive to reputation issues (DeAngelo, 1981), and these firms are less tolerant of tax avoidance practices. Kanagaretnam *et al.* (2016) find that companies audited by Big 4 firms are less likely to engage in tax avoidance than those audited by non-Big 4 firms.

According to recent literature, high-quality auditors are less incentivized to engage in tax avoidance for companies because they would face detrimental consequences if tax authorities detected such tax avoidance practices. They may face reputation and trust risks following the public disclosure of tax avoidance behaviour (Hanlon & Slemrod, 2009). In a similar vein, Richardson *et al*. (2013) demonstrate that when a company is audited by a Big 4 it reduces tax risk. Big 4 audit firms, given their size and visibility, are motivated to rigorously preserve their independence and reputation, avoiding litigation risks (Hindo, 2003).

On the other hand, Sikka and Hampton's (2005) evidence highlights the different approaches and methods audit firms employ to help their customers evade paying taxes. Even though each country has different anti-avoidance laws, firms all around the world use costly accountants or auditors (like Big 4 audit firms) to figure out sophisticated ways to pay lower tax rates (Mail Online, 2010). Thus, there is fear that financial statements with tax-related irregularities might put auditors in hot water (Donohoe & Knechel, 2014).

Generally, it is anticipated that highly qualified external auditors will offer a fair evaluation of the company's financial statements and determine whether or not clients are actively working to lower the amount they pay in taxes (Gaaya *et al.,* 2017; Guenther *et al.,* 2017;).
Consequently, companies audited by Big 4 firms engage in less tax avoidance than those audited by non-Big 4 firms. This leads to the following hypothesis:

***H_2**: Firms tend to reduce their level of tax avoidance after tax audits, especially when audited by Big 4 firms.*

4. Research design

4.1 Sample selection and data collection

Our study is based on a sample of Tunisian companies listed on the Tunisian Stock Exchange (TSE) for 6 years from 2014 to 2019. We excluded enterprises whose financial statements were not available throughout the research period, as they entered the Tunis stock market at some time during the study period. We also exclude observations with a negative pretax income and firms belonging to the financial sector. These companies were not included in the sample because they have different accounting treatments from those of other companies. Our final sample consists of 34 non-financial Tunisian companies listed on the Tunisian Stock Exchange (TSE).

We hand-collected data related to tax audits and the quality of auditors from financial statements and the General Auditor's Report downloaded from the Tunis Stock Exchange website (www.bvmt.com.tn). Tax data and firm characteristics were extracted from companies' annual financial statements available on the Tunisian Stock Exchange website.

4.2 Model

To test our hypotheses, we estimate the following panel regression model, which analyzes the relationship between tax audits, the quality of auditor, and tax avoidance level:

$$ETR_{i,t} = \beta_0 + \beta_1 TA_{i,t} + \beta_2 TA\_BIG4_{i,t} + \beta_3 LEV_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SIZE_{it} + \beta_6 INVINT_{i,t} + \beta_7 CINT_{i,t} + \varepsilon_{i,t} \quad (1)$$

4.2.1 Dependent Variable

Tax avoidance was the dependent variable in this study. In line with previous literature (Menchaoui & Hssouna, 2022; Deslandes *et al.,* 2020; Chen *et al.,* 2010; Badertscher *et al.,* 2013), we measure tax avoidance using the effective tax rate

(ETR). According to Chadefaux and Rossignol (2006), ETR is a financial indicator that measures the company's ability to optimize its tax burden; it is determined by the ratio between the sum of current and deferred taxes recognized in the consolidated accounts of an entity and the pretax accounting income of the entity.

This variable is measured as follows: ETR = Total tax expense/Pretax income.

4.2.2 Independent Variables

We defined tax audits as the authority given to the tax administration (the tax inspection office) to ensure that companies comply with their tax obligations. This variable will be measured as follows: 1 if the firm underwent a tax audit from 2009 to 2012, 0 otherwise. The choice of the duration is not trivial, as a tax audit can take several years, leading to a tax adjustment.
Audit quality: The moderator variable in this study is the audit quality measured by *BIG 4*. In our research, audit quality is a binary variable, coded 1 if the company is audited by one of the Big 4: KPMG, Price Water House Coopers (PWC), Deloitte, Ernst & Young (EY), 0 otherwise (Schneider *et al.,* 2006; Kanagaretnam *et al.*,2016).

4.2.3 Control Variables

Following previous studies (Taylor & Richardson, 2012; Lanis & Richardson, 2012; Dyreng *et al.,* 2008; Chen *et al*., 2010), we control for firm characteristics that correlate with our tax avoidance measure. These variables are: leverage (LEV), profitability (ROA), firm size (SIZE), capital intensity (CINT), and inventory intensity (INVINT).

Leverage (LEV)**:** The results of previous studies are mixed. Lanis and Richardson (2012) and Rego (2003) demonstrated a negative relationship between the level of debt and the effective tax rate. Fiscally deductible interest expenses help minimize the overall tax burden. However, Harris and Fenny (2003) found a positive relationship between the level of debt and the effective tax rate. This variable is measured as follows: *LEV = Long-term Debt / Total Assets.*

Return on assets (ROA): According to Derashid and Zhang (2003) and Noor *et al.* (2008), the higher this ratio, the lower the ETR. However, Lanis and Richardson (2011) found a positive association between ROA and the effective tax rate. An increase in asset returns necessarily leads to an increase in the effective tax rate (Gupta & Newberry, 1997). This variable is measured as follows: *ROA = Pretax Income / Total Assets.*

Large corporations (SIZE): Previous research has found contradictory results regarding firm size and tax avoidance. Gupta and Newberry (1997) showed significant negative effects between company size and effective tax rate, unlike Zimmerman (1983), who identified a significant positive association between company size and effective tax rate. We measure *SIZE as the natural logarithm of total assets.*

Inventory intensity (INVINT) and Capital intensity (CINT) are included as control variables (Stickney & McGee, 1982). CINT has a negative relationship with ETR because it incurs accelerated depreciation based on the asset's useful life. Also, to the extent that INVINT is a substitute for CINT, inventory-intensive firms should be less tax-avoiding than capital-intensive firms; then INVINT is positively associated with ETR (Taylor & Richardson, 2012). We measure *INVINT as inventory divided by lagged total assets* and *CINT as net property, plant, and equipment divided by lagged total* assets (Menchaoui & Hsouna, 2022).

5. Empirical results

5.1 Descriptive Statistics

The analysis of descriptive statistics is a crucial preliminary phase in any study. This analytical step provides an overview of each variable through the minimum, maximum, mean, and standard deviation.

Table 1. Descriptive statistics

Variable	Obs	Mean	Stand.Dev	Min	Max
ETR	179	0.160	0.112	0.000	0.554
LEV	179	0.086	0.101	0.000	0.733
ROA	179	0.105	0.081	0.000	0.468
SIZE	179	7.97	0.419	6.998	8.961
INVINT	179	0.257	0.195	0.002	0.974
CINT	179	0.236	0.171	0.003	0.858
Dummy Variables	**Obs**	**0%**	**1%**		
TA	179	87.15%	12.85%		
BIG4	179	94.97%	5.03%		

Notes **:** ETR: Total tax expense/Pretax income; TA:1 if the company underwent a tax audit during the period from 2009 to 2012, 0 otherwise; BIG4:1 if the company is audited by one of the Big 4, 0 otherwise; LEV: Natural log of long-term debt divided by total assets; ROA: Pretax profit divided by total assets; SIZE: Natural logarithm of total assets; INVINT: inventory divided by lagged total assets; CINT: Net property, plant, and equipment divided by lagged total assets.

In Table 1, we note that non-financial firms listed on the Tunis Stock Exchange bear, on average, an effective tax rate equal to 16%, knowing that the legal rate in Tunisia is 25%. This can be explained by the fact that non-financial companies use several processes to reduce their effective tax rate. The standard deviation of this proxy is

0.112, the maximum of ETR is 55.4%, and the minimum is 0, which signals that some firms adopt an aggressive tax strategy to avoid paying taxes.

We observe that 87.15% of the companies listed on the BVMT have not undergone a tax audit, while 12.84% have undergone such an audit. This confirms what was reported by OXFAM (2020), pointing out that the Tunisian tax administration lacks human and material resources. Similarly, the table indicates that only 5% of the companies have been audited by a statutory auditor from a BIG 4 audit firm, while 95% of the companies are not audited by a BIG 4 firm.

Regarding control variables, descriptive statistics show that the mean natural log of our sample firms' total assets (SIZE) is 7.97. Moreover, our results find that ROA has an average of 0.105, with a standard deviation of 0.081. Leverage shows a mean value of 0.086.

In our study, we observe that all variables are below the threshold of 0.8 (Kennedy, 1985). Therefore, we can assert the absence of multicollinearity issues among the independent variables. Other statistics, such as the variance Inflation Factor (VIF), also help verify multicollinearity.

Multicollinearity is considered problematic when VIF exceeds 10, with a cautionary threshold of 5 suggested by Hair *et al*. (2006). We notice that no VIF value for any variables in our model exceeds 5.

Table 2. Correlation matrix and VIF Test

	ETR	TA	BIG4	LEV	ROA	SIZE	INVINT	CINT	VIF
ETR	**1.000**								
TA	0.029	**1.000**							1.65
BIG4	0.159	0.599	**1.000**						1.63
LEV	-0.054	0.0599	0.042	**1.000**					1.70
ROA	-0.133	-0.138	0.036	-0.546	**1.000**				1.59
SIZE	-0.051	0.081	0.054	0.179	-0.090	**1.000**			1.04
INVINT	0.051	0.158	0.147	0.446	-0.326	0.051	**1.000**		1.52
CINT	-0.115	-0.049	-0.076	0.107	-0.189	0.019	-0.273	**1.0000**	1.22

Notes**:** ETR: Total tax expense/Pretax income; TA:1 if the company underwent a tax audit during the period from 2009 to 2012, 0 otherwise; BIG4:1 if the company is audited by one of the Big 4, 0 otherwise; LEV: Natural log of long-term debt divided by total assets; ROA: Pretax profit divided by total assets; SIZE: Natural logarithm of total assets; INVINT: inventory divided by lagged total assets; CINT: Net property, plant, and equipment divided by lagged total assets.

The Hausman test is formulated as follows: The P-value is higher than the critical threshold of 5%; therefore, we reject H0. Moreover, estimation results indicate that considering the individual specificity of companies in the form of a random effect provides statistically more significant results compared to a fixed effects model. Hence, we adopt the random effects (GLS: General Least Square).

Table 3. HAUSMAN test

Equations	P- value
Hausman	0.6705
Test: Ho: difference in coefficients not systematic	
chi2(1) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 4.91	
Prob>chi2 = 0.6705 (random effect)	

5.2 Regression results

Table 4 presents the results of our regression model. We found a positive relationship significant at the 5% level between tax audit and tax avoidance, not supporting H1. Thus, the companies that do not have a high ETR imply more tax avoidance. This means that firms that have undergone a tax audit are more likely to engage in tax avoidance strategies. In our case, the result can be explained by the fact that the company has already undergone a tax audit. Therefore, the risk of being audited again is minimal, so companies will be more tempted to engage in tax avoidance strategies. This result aligns with those of Kubrick *et al.* (2017), who observe that companies close to the tax authorities are more engaged in tax avoidance strategies. The results of Ojala *et al.* (2023) also imply that the tax administration of Finland's monitoring procedure reduces the tax aggressiveness of private enterprises.

Table 4. Estimation results

Variables	Coefficients	Significance p-value
TA	-0.055	0.014**
TA*BIG4	0.139	0.000***
LEV	-0.216	0.022**
ROA	-0.425	0.001***
SIZE	-0.006	0.520
INVINT	-0.006	0.889
CINT	-0.093	0.086*
Cons	0.339	0.016**

Notes: ETR: Total tax expense/Pretax income; TA:1 if the firm underwent a tax audit during the period from 2009 to 2012, 0 otherwise; BIG4:1 if the company is audited by one of the Big 4, 0 otherwise; LEV: Natural log of long-term debt divided by total assets; ROA: Pretax profit divided by total assets; SIZE: Natural logarithm of total assets; INVINT: inventory divided by lagged total assets; CINT: Net property, plant, and equipment divided by lagged total assets.
*, **, ***, present the level of significance of, respectively, 10%, 5%, and 1%.

We find a significant negative relationship between TA*BIG4 and tax avoidance. Therefore, our second hypothesis, H2, has been validated. This means that companies that have undergone a tax audit and have been audited by a Big 4 are less likely to engage in tax avoidance strategies. This result aligns with some empirical results that found that companies audited by the Big 4 are less likely to engage in tax avoidance strategies than those audited by non-big 4 firms (Lanis & Richardson, 2012; Kanagaretnam *et al.*, 2016). Similarly, Lestari and Nedya (2019) found that audit quality negatively affects tax avoidance practices, meaning that Big Four audit firms can reduce tax avoidance practices due to their expertise and competence. Big 4 audit firms, given their size and visibility, are motivated to preserve their reputation rigorously (Hindo, 2003).

Concerning the control variables, Table 4 shows that LEV is positively associated with tax avoidance, suggesting that the most indebted companies are more likely to engage in tax avoidance strategies. We also find that profitability and CINT are positively associated with tax avoidance practices. The coefficients of SIZE and INVINT are not significant.

6. Discussion and implications

We have chosen to study the impact of a tax audit on the tax behaviour of publicly listed companies in Tunisia, as few studies have focused on this relationship. To our knowledge, this study represents the first attempt to provide empirical evidence on this topic. While previous theoretical research on tax non-compliance provides insights into the factors influencing personal tax evasion (Allingham & Sandmo, 1972) and corporate tax obligations (Chen & Chu, 2005), empirical studies on the behaviour of companies have been limited, likely due to challenges researchers face in accessing appropriate datasets (Ojala *et al.*, 2023).

Two key findings emerge from this research. The first indicates that tax audits have a positive impact on tax avoidance. This conclusion can be explained by the fact that companies that have already been subjected to a tax audit by the tax authorities tend to adopt tax avoidance practices, as they believe the likelihood of being audited again is low. The second finding shows that by introducing audit quality as a moderating variable, the direct effect of tax audits on tax avoidance is reversed. The results indicate that companies audited by the Big 4 firms experience a decrease in their tax aggressiveness following a tax audit. This can be explained by the fact that these major firms, concerned with their reputation, strengthen the financial statement audits and ensure that companies refrain from engaging in aggressive tax strategies.

6.1 Theoretical implications

Previous studies highlight the importance of governance mechanisms such as the board of directors, ownership structure, and external auditors, which influence tax avoidance (Armstrong *et al.*, 2012; Lanis & Richardson, 2011). This study is based on stakeholder theory, which considers not only shareholders and managers but also extends the classical model by including other stakeholders, such as employees, customers, suppliers, creditors, the general public, and the tax authorities. The satisfaction of stakeholders' expectations from the company depends not only on governance structures but also on the power dynamics between the involved parties (Hill & Jones, 1992).

The results of our study showed that the external auditor can play a key role as a governance mechanism in reducing the level of tax avoidance. These findings align with those of Kanagaretnam *et al*. (2016), who found that companies audited by the Big 4 engage in less tax avoidance than those audited by non-Big 4 firms. Similarly, Richardson *et al*. (2013) and Gaaya *et al*. (2017) report that companies audited by the Big 4 are less likely to engage in tax avoidance.

6.2 Practical implications

The results of this study provide important insights for tax authorities. To effectively combat aggressive tax behaviour by companies, we suggest that the tax administration should not rely on a single audit. It would be beneficial to conduct the tax audit periodically to prevent companies from becoming complacent, assuming no further checks will occur. Additionally, alternative forms of control, such as preliminary or spot checks, could also be considered to enhance the effectiveness of tax monitoring.

7. Conclusion

This study examines the relationship between tax audits and corporate tax avoidance practices. Analyzing a sample of 179 firm-year observations spanning from 2014 to 2019, our findings indicate a positive association between tax audits and tax avoidance. Notably, we observe that companies audited by the Big 4 are less likely to adopt tax avoidance strategies after undergoing a tax audit.

Managers can utilize tax avoidance strategies to reduce tax liabilities and increase shareholder capital. This practice will cause problems for the firm's other stakeholders, especially tax authorities, who expect the company to pay its fair share of taxes (Sikka, 2010). Firms that engage in aggressive tax methods may face difficulties from tax authorities, leading to reputational damage, and the reputation of the Big 4 is at risk of being tarnished. In the same vein, this study's results demonstrated that the presence of the Big 4 as a monitoring mechanism reduces tax avoidance in companies that have already undergone tax control.

From the perspective of stakeholder theory, our results demonstrate that the Big 4, as governance mechanisms, have played their role in effectively overseeing the tax strategies adopted by companies. Indeed, as previously mentioned, the tax administration is an implicit shareholder in the company, and it must collect its fair share of the profit.

Like any research work, this study has limitations, and the small sample size makes it challenging to generalize the obtained results. For future research directions, it would be worthwhile to explore this issue in different contexts or choose alternative measures for certain variables, such as the likelihood of a tax audit on the level of tax avoidance.

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